



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,432	11/14/2001	Cullen Davis	321.068/US	6137

7590 03/15/2006

B. Craig Killough
P.O. Drawer H
885 Island Park Drive (29492)
Charleston, SC 29402

EXAMINER

QIN, YIXING

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/992,432	DAVIS ET AL.	
	Examiner	Art Unit	
	Yixing Qin	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

In response to applicant's amendment received 12/19/05, all requested changes have been entered.

Response to Arguments

Applicant's arguments, filed 12/19/05, with respect to the rejection(s) of claim(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. The examiner agrees with the arguments made, but since the claims have been amended, a new ground(s) of rejection is made in view of Gerber and Airey. Please see the new rejection below.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber (U.S. Patent No. 5,913,992).

1. Claim 1

- Gerber discloses in column 9, lines 15-26 (especially lines 25-26) that a design for a tile on a plate (i.e. **the plate is each of a plurality of individual substrates**) can be scanned and converted into a digital format. Please note that in column 4, lines 65-67 and column 5, lines 1-8 that the tiles are deposited onto a plate and that the plates are arranged to form an overall mosaic. Lines 51-65 disclose the formatting of the tiles, such as the shape and dimensions of the tile, which would be the length and width of the tile for a square tile.

Art Unit: 2622

- Column 9, lines 66-67 and column 10, lines 1-3 discloses that tiles are to be arranged so that it can ultimately cover the dimensions of the desired surface. This dimensions of the desired surface would read on the length and width of a **composite image** since it would be the dimensions of the resulting image that is being created.
- Gerber discloses in column 11, lines 12-22 and Fig. 16b a spacing S (**assembly spacing**).
- Again, Gerber discloses in column 11, lines 12-30 that the controller creates a theoretical arrangement of the tiles as seen in Fig. 16a. Although not explicitly stated, it would be obvious to one of ordinary skill that this effectively sizes a digital image to correspond to the composite image.
- One can see in Fig. 16b that the sum of the individual tiles plus the different spacings S equals the size of an overall image.
- Gerber discloses in column 11, lines 32-35 and Fig. 15, steps 126 and 128 that a tile pattern is deposited upon a pile to be put onto a plate. The machine that performs that is item 18 of Fig. 1 (see column 4, lines 47-50). The Examiner believes that the handling means can read on a printer since it is essentially a machine that deposits information (in this case a tile design) upon a medium (e.g. a tile).

2. Claim 2

- Gerber discloses in column 4, lines 65-67 and column 5, lines 1-8 that the plates are arranged to form the overall mosaic pattern (which is the composite image)

3. Claim 3

- Gerber discloses in column 6, lines 50-54 the use of orientation marks.

II. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gerber (U.S. Patent No. 5,913,992) in view of Airey et al (U.S. Patent No. 5,407,474)

4. Claim 4

- Limitations a-f have been discussed in claim 1 above
- As for claim 4, the **intermediate substrate that is create are the tile pieces** as discussed in column 4, lines 65-67 of Gerber and the **plates are the subcomponent entities**.
- Gerber further discloses in Fig. 19 and column 12, lines 33-44 the heating of a plate to activate bonding of the tile pieces to the plate.
- Gerber, however, does not explicitly disclose that the tiles can be created using ink. However, the secondary reference, Airey discloses in column 5, lines 53-59

Art Unit: 2622

that an inkjet printer can be used to print on ceramics (which is the material that tiles can be made of).

- Both references are in the art of printing on a ceramic substrate. The Airey reference disclosed that an inkjet printer that can be used to print on a ceramic substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have used a printer with inkjet capabilities to create the tile. The motivation would be to use an image-forming device with an ink that is more particularly suited for printing on ceramic materials.

5. Claim 5

- This has been discussed in claim 2 above.

6. Claim 6

- This has been discussed in claim 3 above.

7. Claims 7 and 8

- These have been discussed in claim 4 above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2622

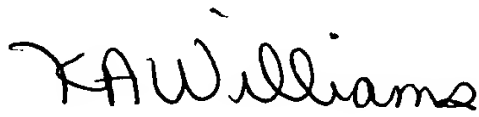
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yixing Qin whose telephone number is (571)272-7381.

The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571)272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YQ


KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER